



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/591,531	06/09/2000	Lawrence Bernard Kool	RD-27,817	3236
6147	7590	03/14/2002		
GENERAL ELECTRIC COMPANY CRD PATENT DOCKET ROOM 4A59 P O BOX 8 BUILDING K 1 SALAMONE SCHEECTADY, NY 12301			EXAMINER	
			ANYA, IGWE U	
		ART UNIT	PAPER NUMBER	
		2825		

DATE MAILED: 03/14/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/591,531	KOOL ET AL.
	Examiner	Art Unit
	Igwe U. Anya	2825

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 09 June 2000.

2a) This action is FINAL.      2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-48 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-6, 9, 10, 12, 13, 17-27, 29-36, 38-44, 46 and 47 is/are rejected.

7) Claim(s) 7, 8, 11, 14-16, 28, 37, 45 and 48 is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____.
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>5,6</u> .	6) <input type="checkbox"/> Other: _____

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1 – 6, 9, 10, 12, 13, 17 – 27, 29 – 36, 38 – 44, 46 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baldi (US Patent Number 3622391) in view of Matsukawa (US Patent Number 5962145).

3. Baldi teaches a method for selectively removing at least one coating from the surface of a substrate, comprising the step of:

contacting the coating with an aqueous composition which comprises an acid fluoride or precursors to said acid, (column 2 line 40 – column 3 line 34);  
the precursor being a salt of the acid (column 3 lines 25 – 39);  
the aqueous composition further comprises at least one additional acid or precursor thereof (column 3 line 34 – 39);

the additional acid has a pH of less than about 7 in pure water (inherency of acids);

the additional acid is a mineral acid (column 3 lines 34 – 39);

the additional acid is selected from the group consisting of phosphoric acid, nitric acid, sulfuric acid, hydrochloric acid, hydrofluoric acid, hydrobromic acid, hydriodic acid,

Art Unit: 2825

acetic acid, perchloric acid, phosphorous acid, phosphinic acid, alkyl sulfonic acids, and mixtures of any of the foregoing (column 3 lines 34 – 39);

the substrate is immersed in a bath of the aqueous composition (column 3 lines 71 – 75);

the bath is maintained at a temperature in the range of about room temperature to about 100°C, while the substrate is immersed therein (column 3 lines 71 - 75);

the temperature is in the range of about 45°C to about 90°C (column 2 lines 40 – 48);

the immersion time is in the range of about 10 minutes to about 72 hours (column 3 lines 71 – 75);

the immersion time is in the range of about 60 minutes to about 20 hours (column 2 lines 68 – 70);

the bath further comprises at least one additive selected from the group consisting of inhibitors, dispersants, surfactants, chelating agents, wetting agents, deflocculants, stabilizers, anti-settling agents, and anti-foam agents (column 3 line 47 – 52);

the coating being removed from the substrate comprises at least one diffusion coating or overlay coating (column 1 line 10 – 47);

the diffusion coating comprises an aluminide material (column 1 lines 10 – 47);

the aluminide material is selected from the group consisting of aluminide, noble metal-aluminide, nickel aluminide, noble metal-nickel-aluminide, and mixtures thereof (column 1 line 10 – 47);

the overlay coating comprises MCrAl(X), where M is an element selected from the group consisting of Ni, Co, Fe, and combinations thereof, and X is an element selected from the group consisting of Y, Ta, Si, Hf, Ti, Zr, B, C, and combinations thereof (column 1 table 1);

the substrate is selected from the group consisting of a metallic material and a polymeric material, which is substantially resistant to strong acids (column 1 line 68 – column 2 line 39);

the metallic material comprises at least one element selected from the group consisting of iron, cobalt, nickel, aluminum, chromium, titanium, and mixtures which include any of the foregoing (column 1 lines 15 – 75);

the metallic material comprises a superalloy (column 1 line 15 – 75);

the superalloy is nickel-based or cobalt-based (column 1 line 15 – 50);

the superalloy is a component of a turbine engine (column 1 lines 15 – 23); and

the component comprises an airfoil (column 1 line 15 – 23).

4. Baldi does not teach the steps wherein:

the acid has the formula HXAF<sub>6</sub>, wherein A is selected from the group consisting of Si, Ge, Ti, Zr, Al, and Ga; and x is 1-6;

x is 1-3;

the acid is present at a level in the range of about 0.05 M to about 5 M;

the acid is present at a level in the range of about 0.2 M to about 3.5 M; and

the aqueous composition comprises the compound H<sub>2</sub>SiF<sub>6</sub> or H<sub>2</sub>ZrF<sub>6</sub>.

Art Unit: 2825

5. However, Matsukawa teaches an aluminum surface treatment and etching comprising the steps wherein:

the acid has the formula HXAF<sub>6</sub>, wherein A is selected from the group consisting of Si, Ge, Ti, Zr, Al, and Ga; and x is 1-6 (column lines 61 – 67);

x is 1-3 (column 2 lines 61 – 67);

the acid is present at a level in the range of about 0.05 M to about 5 M (column 3 line 38 – column 4 line 7);

the acid is present at a level in the range of about 0.2 M to about 3.5 M (column 3 line 38 – column 4 line 7); and

the aqueous composition comprises the compound H<sub>2</sub>SiF<sub>6</sub> or H<sub>2</sub>ZrF<sub>6</sub> (column 2 line 61 – 67).

6. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to treat the surface of aluminum and strip aluminide coating formed thereon with a specific acid fluoride.

7. Furthermore, Kitayama et al. (US Patent Number 5916656) in column 14 lines 7 – 48 teaches the use of fluorosilic acid as art recognized equivalent of hydrofluoric acid.

8. Claims 7, 8, 11, 14, 15, 16, 28, 37, 45, and 48 are objected to as being dependent upon a rejected claim.

9. Prior art considered but not used in the rejections include Lada et al. (US Patent Number 4339282), Kircher et al. (US Patent Number 6036995), and Jaworowski et al. (US Patent Number 6176999)

Art Unit: 2825

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Igwe U. Anya whose telephone number is (703) 308-3549. The examiner can normally be reached on M-F 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew S. Smith can be reached on (703) 308-1323. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Igwe U. Anya  
Examiner  
Art Unit 2825

IA  
March 6, 2002

*Matthew Smith*

MATTHEW SMITH  
PATENT EXAMINER  
ART CENTER 2800